Innovative Service Around the Globe YAGEO

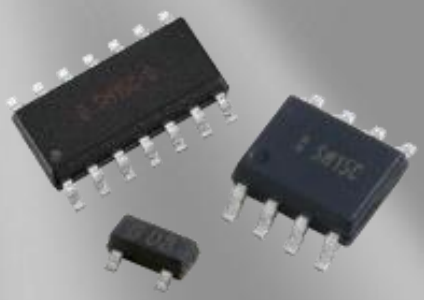
DATA SHEET

ELECTROSTATIC DISCHARGE PROTECTION DEVICES

INDUSTRIAL / CONSUMER

SJD12C30L01-AT

RoHS compliant & Halogen free





Product specification– September 23, 2024 V.1

Electrostatic Discharged Protection Devices (ESD) Data Sheet

Description

The SJD12C30L01-AT is designed to protect voltage sensitive components from high voltage, high energy transients. Excellent clamping capability, high surge capability, low zener impedance and fast response time. Because of its small size, it is ideal for use in cellular phones, portable device, business machines, power supplies and many other industrial/consumer applications.



Contact : ±30kV
Air : ±30kV

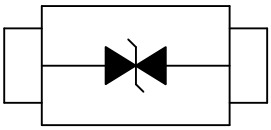


Features

- IEC61000-4-2 ESD 30KV Air,30KV contact compliance
- SOD-123S surface mount package
- Protects one I/O line
- Peak power dissipation of 1000W under 8/20μs waveform
- Working voltage: 30V
- Low leakage current
- Solid-state silicon avalanche technology
- Lead Free/RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270℃
- Flammability rating UL
- Meets MSL level 1, per J-STD-020
- AEC-Q101 qualified

Applications

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Portable devices
- Portable instrumentation
- Handhelds and notebooks
- Digital cameras



SJD12C30L01-AT

Pin Configuration

Maximum Ratings

Rating	Symbol	Value	Unit
Peak pulse power (tp=10/1000μs waveform)	P_{PP}	200	W
Peak pulse power (tp=8/20μs waveform)	P_{PP}	1000	W
ESD voltage (Contact discharge)	V_{ESD}	±30	kV
ESD voltage (Air discharge)		±30	
Storage & operating temperature range	T_{STG} ,T_J	-55~+150	℃

Electrical Characteristics (T_J=25℃)

Part Number	Device Marking Code	Reverse Stand-Off Voltage	Breakdown Voltage @I_T		Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_{RWM}
	BI	V_{RWM}(V)	$V_{BR\ MIN.}$(V)	$V_{BR\ MAX.}$(V)	I_T(mA)	V_C(V)	I_{PP}(A)	I_R(μA)
SJD12C30L01-AT	CK	30.0	33.30	36.80	1	48.4	4.2	1

Typical Characteristics Curves

Figure 1. Peak Pulse Power Rating Curve

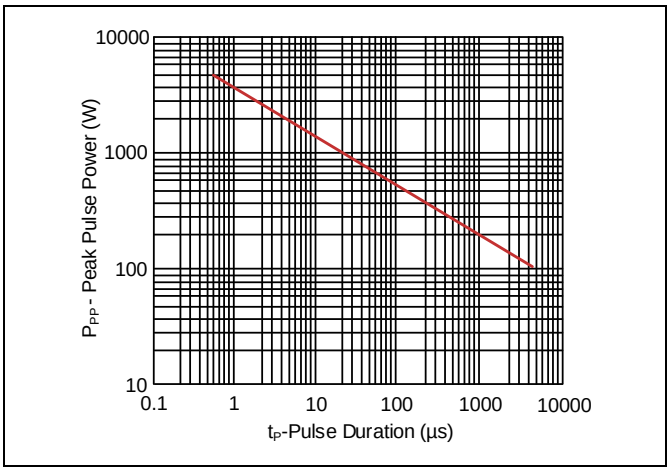


Figure 2. 10/1000μs Pulse Waveforms

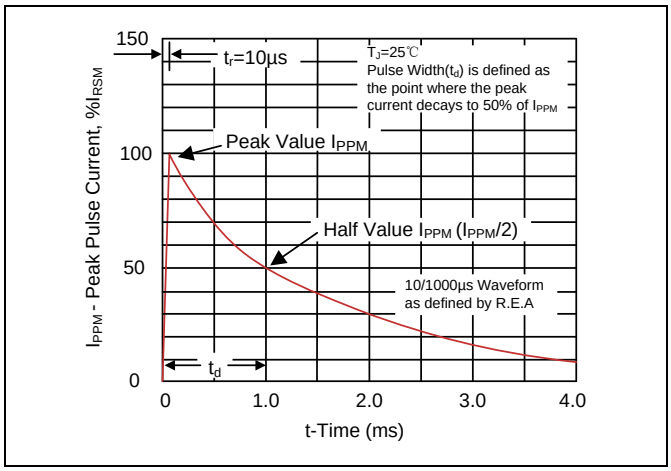


Figure 3. 8/20μs Pulse Waveforms

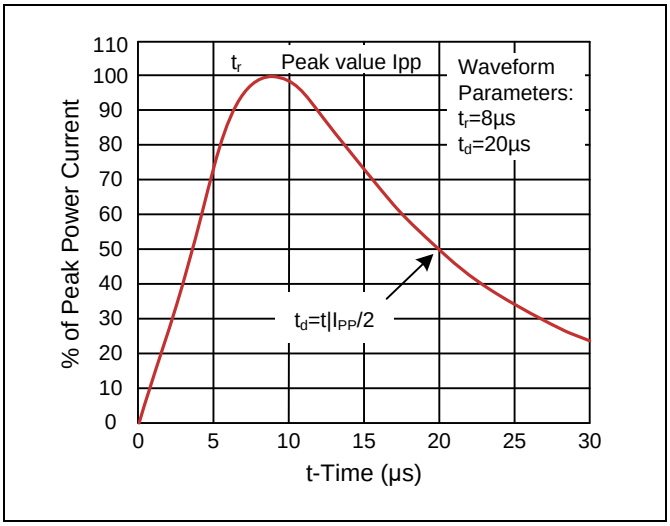


Figure 4. Power Derating Curve

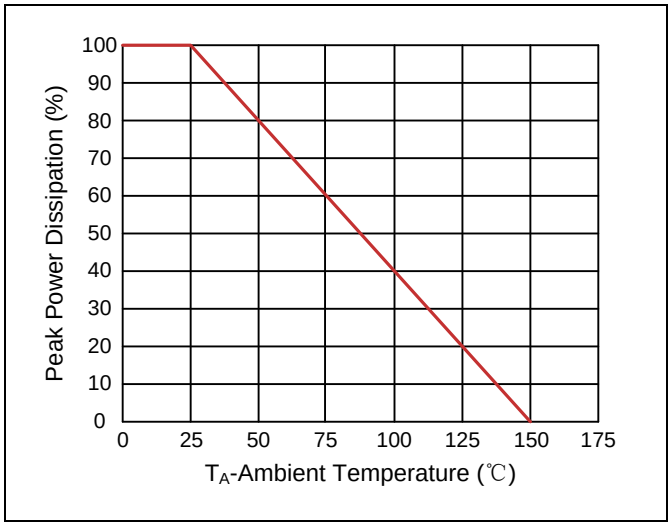
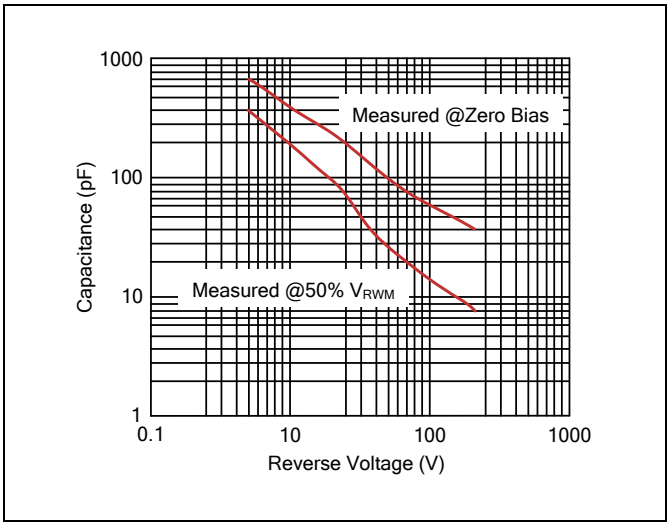
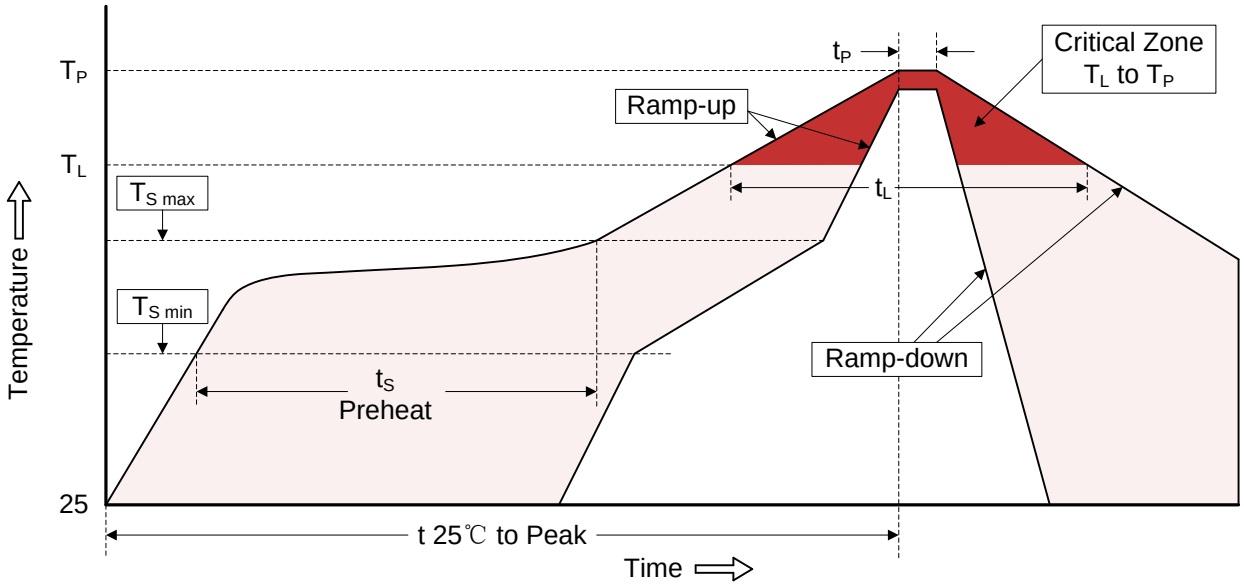


Figure 5. Capacitance vs. Reverse Voltage



Recommended Soldering Conditions

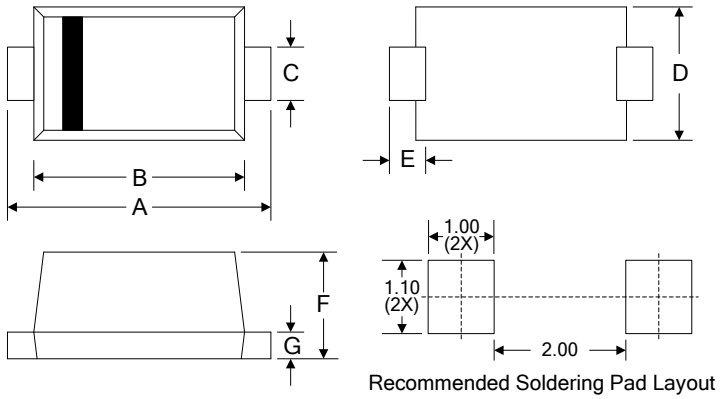
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Dimensions (SOD-123S)

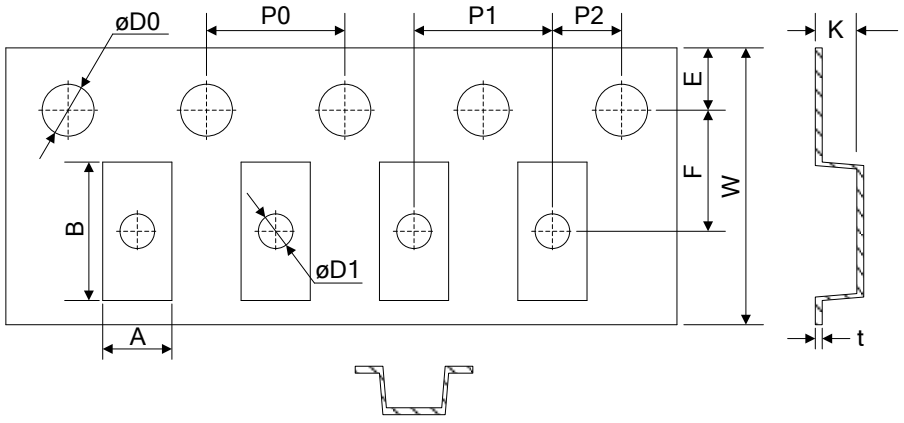


Recommended Soldering Pad Layout

Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.50	3.90	0.138	0.154
B	2.60	3.00	0.102	0.118
C	0.75	1.10	0.030	0.043
D	1.60	2.00	0.063	0.079
E	0.80Typ.		0.031Typ.	
F	0.90	1.40	0.035	0.055
G	0.13	0.22	0.005	0.009

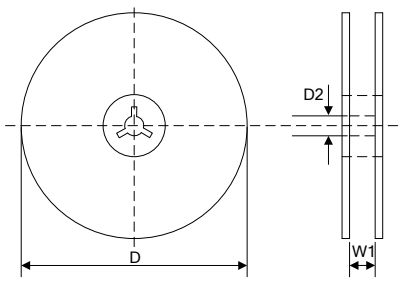
Packaging

Tape



Symbol	Dimension (mm)
W	8.00±0.30
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	Φ1.50±0.10
D1	Φ1.00±0.05
E	1.75±0.10
F	3.50±0.10
A	2.00±0.10
B	3.95±0.10
K	1.40±0.12
t	0.23±0.10

Reel



D	Φ178.0±2.0
D2	Φ13.0
W1	9.5
Quantity: 3000PCS	

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